WHAT IS CLAIMED IS:

1. A decoding apparatus for decoding an input signal which includes a code stream and data having time management information about decoding of the code

5 stream, comprising:

buffering means for buffering the input signal;

decoding means for reading out the input signal from said buffering means, decoding the input signal, and writing decoded data in a predetermined memory;

10 output means for outputting the decoded data from the predetermined memory; and

control means for controlling said buffering means and said decoding means on the basis of the time management information.

15 2. The apparatus according to claim 1, wherein said control means checks a time necessary for decoding from the time management information, checks whether processing ends within a limit time, and when the time reaches the limit time before processing of all data

20 ends, controls said decoding means to write decoded data in the predetermined memory.

3. The apparatus according to claim 2, wherein when the time reaches the limit time before processing of all data ends, said control means checks whether the

25 decoded data have an image quality not lower than a preset lowest image quality, if the image quality is not higher than the lowest image quality, newly adds

time management information to add a processing time of next data to a processing time of current data, and discards the next data.

4. The apparatus according to claim 1, wherein said decoding means reads out data from said buffering means in accordance with priority set by said control means, decodes the data, and writes the data at a position having the same priority in the predetermined memory.

5. The apparatus according to claim 4, wherein said decoding means uses as a processing unit a tile obtained by dividing a frame at a predetermined size.

6. The apparatus according to claim 4, wherein the priority set by said control means is determined to change for each frame so as to prevent priority at the same position from being the same between successive frames.

7. The apparatus according to claim 5, wherein the priority set by said control means is determined to be high at a tile of each frame near a center of a screen.

8. The apparatus according to claim 2, wherein when the time reaches the limit time before processing of all data ends, said output means outputs the decoded data written in the predetermined memory with an image size corresponding to a size of the written data.

9. The apparatus according to claim 2, wherein when the time reaches the limit time before processing of all data ends, said control means checks whether the

decoded data have an image size not smaller than a
preset smallest image size, if the image size is not
larger than the smallest image size, newly adds time
management information to add a processing time of next
5   data to a processing time of current data, and discards
the next data.

10.   A method of controlling a decoding apparatus for
decoding an input signal which includes a code stream
and data having time management information about
10   decoding of the code stream, comprising:

a buffering step of buffering the input signal in
a predetermined buffer;

a decoding step of reading out the input signal
from the predetermined buffer, decoding the input
15   signal, and writing decoded data in a predetermined
memory;

a output step of outputting the decoded data from
the predetermined memory; and

a control step of controlling at least one of the
20   buffering step, the decoding step, and the output step
on the basis of the time management information.

11.   The method according to claim 10, wherein in the
control step, a time necessary for decoding is
determined from the time management information,
25   whether processing ends within a limit time is checked,
and when the time reaches the limit time before
processing of all data ends, the decoding step is

controlled to write decoded data in the predetermined
memory.

12. The method according to claim 11, wherein in the
control step, when the time reaches the limit time
before processing of all data ends, whether the decoded
data have an image quality not lower than a preset
lowest image quality is checked, if the image quality
is not higher than the lowest image quality, time
management information is newly added to add a
processing time of next data to a processing time of
current data, and the next data is discarded.

13. The method according to claim 10, wherein in the
decoding step, data is read out from the buffering step
in accordance with priority set in the control step,
decoded, and written at a position having the same
priority in the predetermined memory.

14. The method according to claim 13, wherein in the
decoding step, a tile obtained by dividing a frame at a
predetermined size is used as a processing unit.

15. The method according to claim 13, wherein the
priority set in the control step is determined to
change for each frame so as to prevent priority at the
same position from being the same between successive
frames.

16. The method according to claim 14, wherein the
priority set in the control step is determined to be
high at a tile of each frame near a center of a screen.

17.　The method according to claim 11, wherein in the output step, when the time reaches the limit time before processing of all data ends, the decoded data written in the predetermined memory are output with an

5　image size corresponding to a size of the written data.

18.　The method according to claim 11, wherein in the control step, when the time reaches the limit time before processing of all data ends, whether the decoded data have an image size not smaller than a preset

10　smallest image size is determined, if the image size is not larger than the smallest image size, time management information is newly added to add a processing time of next data to a processing time of current data, and the next data is discarded.

15　19.　A storage medium which stores program codes functioning as a decoding apparatus for decoding an input signal which includes a code stream and data having time management information about decoding of the code stream, comprising:

20　　a program code of the buffering step of buffering the input signal in a predetermined buffer;

　　a program code of the decoding step of reading out the input signal from the predetermined buffer, decoding the input signal, and writing decoded data in

25　a predetermined memory;

　　a program code of the output step of outputting the decoded data from the predetermined memory; and

a program code of the control step of controlling
at least one of the buffering step, the decoding step,
and the output step on the basis of the time management
information.

5   20.   The apparatus according to claim 3, further
comprising lowest image quality setting means for
setting the lowest image quality.

21.   The apparatus according to claim 20, wherein said
lowest image quality setting means sets the lowest
10   image quality in accordance with processing performance
of said decoding means.

22.   The apparatus according to claim 21, wherein said
lowest image quality setting means sets the lowest
image quality on the basis of relationship between the
15   processing performance of said decoding means and a
designated playback speed.

23.   The apparatus according to claim 22, wherein
the apparatus further comprises a first table
representing the relationship between the playback
20   speed and the lowest image quality, and
said lowest image quality setting means sets the
lowest image quality corresponding to the designated
playback speed with reference to the first table.

24.   The apparatus according to claim 9, further
25   comprising smallest image size setting means for
setting the smallest image size.

25.   The apparatus according to claim 24, wherein said

smallest image size setting means sets the smallest
image size in accordance with processing performance of
said decoding means.

26.   The apparatus according to claim 25, wherein said
smallest image size setting means sets the smallest
image size on the basis of relationship between the
processing performance of said decoding means and a
designated playback speed.

27.   The apparatus according to claim 26, wherein
       the apparatus further comprises a second table
representing the relationship between the playback
speed and the smallest image size, and

       said smallest image size setting means sets the
smallest image size corresponding to the designated
playback speed with reference to the second table.

28.   The method according to claim 12, further
comprising the lowest image quality setting step of
setting the lowest image quality.

29.   The method according to claim 28, wherein in the
lowest image quality setting step, the lowest image
quality is set in accordance with processing
performance of the decoding step.

30.   The method according to claim 29, wherein in the
lowest image quality setting step, the lowest image
quality is set on the basis of relationship between the
processing performance of the decoding step and a
designated playback speed.

31.   The method according to claim 30, wherein in the lowest image quality setting step, the lowest image quality corresponding to the designated playback speed is set with reference to a first table representing the relationship between the playback speed and the lowest image quality.

32.   The method according to claim 18, further comprising the smallest image size setting step of setting the smallest image size.

33.   The method according to claim 32, wherein in the smallest image size setting step, the smallest image size is set in accordance with processing performance of the decoding step.

34.   The method according to claim 33, wherein in the smallest image size setting step, the smallest image size is set on the basis of relationship between the processing performance of the decoding step and a designated playback speed.

35.   The method according to claim 34, wherein in the smallest image size setting step, the smallest image size corresponding to the designated playback speed is set with reference to a second table representing the relationship between the playback speed and the smallest image size.